

WHAT IS CLAIMED:

1. An isolated DNA comprising nucleotides encoding a polypeptide having the amino acid sequence SEQ.ID.NO.:2.

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2. The DNA molecule of claim 1 comprising a nucleotide sequence selected from the group consisting of SEQ.ID.NO.:1 and positions 158-1,324 of SEQ.ID.NO.:1.

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3. A DNA molecule that hybridizes under stringent conditions to the DNA of claim 1.

4. An expression vector comprising the DNA of claim 1.

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5. A recombinant host cell comprising the DNA of claim 1.

6. An isolated HG07 protein having the amino acid sequence SEQ.ID.NO.:2.

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7. The isolated HG07 protein of claim 6 that is substantially free from other proteins.

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8. The HG07 protein of claim 6 containing a single amino acid substitution.

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9. The HG07 protein of claim 6 containing two or more amino acid substitutions where the substitutions are conservative and do not occur in positions where HG07 and the human leukotriene B4 receptor share the same amino acid.

10. A method for determining whether a substance is a potential agonist or antagonist of HG07 comprising:

(b) allowing the transfected cells to grow for a time sufficient to allow HG07 to be expressed;

(c) exposing the cells to a labeled ligand of HG07 in the presence and in the absence of the substance;

5 (d) measuring the binding of the labeled ligand to HG07; where if the amount of binding of the labeled ligand is less in the presence of the substance than in the absence of the substance, then the substance is a potential agonist or antagonist of HG07;

10 where HG07 has an amino acid sequence of SEQ.ID.NO.:2.

11. A method for determining whether a substance is capable of binding to HG07 comprising:

(a) providing test cells by transfecting cells with an expression vector that directs the expression of HG07 in the cells;

15 (b) exposing the test cells to the substance;

(c) measuring the amount of binding of the substance to HG07;

(d) comparing the amount of binding of the substance to HG07 in the test cells with the amount of binding of the substance to 20 control cells that have not been transfected with HG07;

wherein if the amount of binding of the substance is greater in the test cells as compared to the control cells, the substance is capable of binding to HG07;

25 where HG07 has an amino acid sequence of SEQ.ID.NO.:2.

12. A method of identifying agonists and antagonists of HG07 comprising:

(a) providing test cells by transfecting cells with an expression vector that directs the expression of HG07 in the cells;

30 (b) exposing the test cells to a substance that is suspected of being an agonist or an antagonist of HG07;

(c) measuring the amount of a functional response of the test cells that have been exposed to the substance;

(d) comparing the amount of the functional response exhibited by the test cells with the amount of the functional response exhibited by control cells;

5 where if the amount of the functional response exhibited by the test cells differs from the amount of the functional response exhibited by the control cells, the substance is an agonist or antagonist of HG07;

where the control cells are cells that have not been transfected with HG07 but have been exposed to the substance or are test cells that have not been exposed to the substance;

10 where HG07 has the amino acid sequence SEQ.ID.NO.:2.

13. An antibody that binds specifically to HG07 where HG07 has an amino acid sequence of SEQ.ID.NO.:2.